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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,699	11/26/2003	Hengju Cheng	01PAR001 C4	7833

7590

05/07/2004

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EXAMINER

KIANNI, KAVEH C

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 05/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/723,699	Applicant(s) CHENG ET AL.	
	Examiner Kevin C Kianni	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-43 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36, 39 and 40 is/are rejected.
- 7) ☒ Claim(s) 37, 38 and 41-43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Acknowledgment is made of applicant's cancellation of claims 1-35 and 44-50 in preliminary amendment 11/26/2003.

Allowable Subject Matter

1. Claims 37,38, 41, 43 and 42 are objected to as being dependent upon a Rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 37 is allowable because the prior art of record, taken alone or in combination, fails to disclose or render wherein said ferrule alignment structure comprises a set of alignment holes and said carrier alignment structure comprises a set of alignment apertures in said silicon substrate carrier and guide pins extending through said set of alignment apertures in combination with the rest of the limitations of the base claim.

Claims 38, 41 and 43 depend on claim 37 and therefore are also allowable.

Claim 42 is allowable because the prior art of record, taken alone or in combination, fails to disclose or render a set of metal traces deposited as a grid on said transparent film layer for use in suppressing EMI emissions in combination with the rest of the limitations of the base claim.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 36, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (US 5,917,979).

Regarding claim 36, Yamaguchi teaches an optoelectronic module (shown at least in fig. 1; see abstract) comprising:

A fiber optic ferrule 6 supporting a set of optical fibers F and having a ferrule alignment structure 7(8) (shown in fig. 1, item ferrule 6 having alignment structure); and a silicon substrate carrier 2 adapted to support said optoelectronic device 16, said silicon substrate carrier 2 including:

- a) a plurality of electrically conductive traces for carrying signals to at least one of the optoelectronic device 16 and other devices (see fig. 5, electrically conductive traces for carrying signals to optical element 15A of the optoelectronic element 16; see col. 11, lines 13-19) mounted on said silicon substrate carrier (see fig. 1, items 16 and 2, and see col. 11, lines 23-27),
- b) a carrier 2 alignment structure 3,4,5 for cooperating with said ferrule 6 alignment structure 7(8) and aligning said silicon substrate carrier 2 with said fiber optics ferrule 6, and
- c) at least one alignment mark 10A constructed on said silicon substrate carrier 2 and precisely aligned relative to said carrier alignment structure 3,4,5 for use in precisely positioning and mounting at least one of the optoelectronic device 16 and

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the other devices on said silicon substrate carrier 2 (see fig. 1-2 and 5, item alignment marks 10A aligned relative to carrier alignment structure 3,4,5; and see also col. 11, lines 37-47), and wherein the optoelectronic device 16 comprises a set of light receiving/transmitting components LD,PD which is mounted on a the silicon substrate carrier 2 with reference to the at least one alignment mark 9 so that said optical fibers F are aligned with said light receiving/transmitting components LD,PD when said silicon substrate carrier 2 is aligned with said fiber optics ferrule 6 (see fig. 1-2 and 5, item optoelectronic device 16 having active elements 15A/LDN/PDN aligned with respect to bumps 9 of Si carrier 2; see also col. 11, lines 28-36 and col. 13, lines 9-16).

However, Yamaguchi does not specifically teach wherein the above light/receiving/transmitting components are photoactive components. Nevertheless, Yamaguchi states that PDs/LDs are used as light receiver/transmitters (shown in fig. 5, items LD1-n/PD1-n). It is well known to those of ordinary skill in the art when the invention was made that PDs and LDs acting as light/photon receiving/transmitting components are known as photoactive components, since such since such optical communication transceiver would yield increase in optical transmission paths efficiently (see col. 4, lines 1-15).

Regarding claims 39 and 40, Yamaguchi further teaches said silicon substrate carrier 2 further includes a window section 5 extending through said silicon substrate carrier 2, and a transparent layer disposed over said window section (see fig. 2, item

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windows 5 as well as holes/windows 3,4 and 9 in which SiO₂ or a layer of glass is disposed over them, see col. 10, lines 46-49 and col. 12, lines 22-24); said light receiving/transmitting components LD/PD are arranged in a first linear array 17, and said optical fibers F are arranged in a second linear array corresponding to said first linear array (see fig. 1-2, items fibers F, Si carrier 2, light receiving/transmitting receiver 16 and microlens array 9, and see col. 12, lines 35-53).

Citation of Relevant Prior Art

4. Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Ogawa et al. 5536466 Teaches transparent film deposition on a substrate using photolithography

Isaksson et al. 6130979

Jiang et al. 6085007 Teaches VCSELs and PIN photodiodes in a FO alignment structure

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

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Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for formal communications intended for entry)

or:

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.



K. Cyrus Kianni
Patent Examiner
Group Art Unit 2877

Frank Font
Supervisory Patent Examiner
Group Art Unit 2877

April 27, 2004